

USPTO Customer No. 25280

RECEIVED
CENTRAL FAX CENTER

Case 5594

REMARKS**JUL 31 2006***Summary of Claim Amendments*

Claims 1 and 23 have been amended to recite, more specifically, the structures which Applicant regards as the invention. Claims 2, 8, and 22 have been cancelled. Claims 3, 6, 10, and 23 have been amended to correct the Markush group language contained therein (i.e., replacing "or" with "and"). Claims 7, 10, 12, and 15 have been amended to contain proper antecedent basis and/or correct subject-verb agreement (e.g., replacing "guide tube is" with "guide tubes are"). Claims 24-32 were previously withdrawn from consideration, as being directed to a non-elected invention, and are identified as "withdrawn."

Thus, the pending Claims under consideration are Claims 1, 3-7, 9-21, and 23.

Rejections under 35 USC 103

Claims 1-12 are rejected under 35 USC 103(a) as being unpatentable over US Patent 6,796,547 to WASHBURN, in view of US Patent 6,398,190 to LI.

The Examiner's argument is essentially as follows:

WASHBURN pulls elongate members (inner duct guide tubes having a chosen fire resistant coating) through a conduit using a pull member attached to the respective ends of the elongate members. LI teaches that elongate members may be pulled through a conduit by means of a textile monofilament or composite sleeve material made of nylon or polyvinylfluoride having a 600-lb strength disposed about the elongate members so that the elongate member is in slidable relation to the textile sleeve.

To provide in WASHBURN a textile sleeve about the elongate member(s) would have been obvious to one of ordinary skill in the art, in view of the disclosure of

USPTO Customer No. 25280

Case 5594

LI. One would have been motivated to do this in order to enable the elongate members of WASHBURN (which may be fragile) to be pulled through a duct without damage.

Employing any well-known additive or coating for the purpose of fire retardance is deemed obvious. Similarly, to choose monofilament or multifilament or single component or composite, dependent upon the desired strength and flexibility properties, is also deemed to be obvious.

Claim 1, from which all other rejected claims depend directly or indirectly, has been amended to recite an innerduct guide tube assembly comprising a plurality of polymer guide tubes, each of which includes a means for installing a cable therein, and a woven textile sleeve disposed about the guide tubes in slidable relation thereto.

To establish a *prima facie* case of obviousness, there must be some motivation to combine the references. (MPEP 2143.01) Applicant respectfully submits that there is no motivation to make the combination of WASHBURN with LI.

In the case of WASHBURN, cables are conveyed through a outer conduit by a plurality of "ducts", which are collapsible tubes having a three-layer structure. The outermost layer of the structure is a durable and flexible material, such as PVC, urethane, thermoplastic elastomer, silicone, or vulcanized rubber (Col. 1, lines 41-45). Further, the ducts may have internal and/or external ribs for reducing frictional forces.

LI teaches a textile "outer jacket" for carrying a cable through a conduit. The Examiner has suggested that one would be motivated to use LI's textile sleeve to carry WASHBURN's ducts through a conduit in order to prevent damage to WASHBURN's ducts. Applicant respectfully finds nothing in either reference to suggest such motivation

USPTO Customer No. 25280

Case 5594

might exist. Although WASHBURN's ducts are collapsible, they are not fragile, as suggested by the Examiner. Rather, WASHBURN provides its ducts with internal and/or external ribs (as discussed previously) and connection points that provide structure and support to the individual ducts. WASHBURN also describes grouping its ducts by the aforementioned connection points; by heating, fusing, or adhesives; or by tying together, such as with plastic banding (Col. 5, lines 18-29). Thus, Applicant submits that the Examiner's proposed combination of WASHBURN and LI addresses a non-existent problem with the ducts of WASHBURN.

Further, the combination of WASHBURN with LI fails to teach all of the limitations of Applicant's claims, another requirement necessary for establishing a *prima facie* case of obviousness (MPEP 2143.03). There is no teaching in either WASHBURN or LI of including installation means disposed within each guide tube for installing cables therethrough. The WASHBURN reference provides only a generic statement that cables are inserted through the ducts by pushing or pulling (Col. 4, lines 65-66), while the LI reference speaks only of attaching a pull cord to the end of the cable-containing outer jacket. Neither reference contemplates the inclusion of installation means within the guide tubes themselves.

Because there is no motivation to combine the references, and because the references fail to teach all of the limitations of Applicant's claims, Applicant submits that the rejection on the basis of 35 USC 103(a) over WASHBURN and LI is hereby traversed. Accordingly, Applicant respectfully requests that the rejection of Claims 1-12 be withdrawn.

* * *

USPTO Customer No. 25280

Case 5594

Claims 13-16 are rejected under 35 USC 103(a) as being unpatentable over US Patent 6,796,547 to WASHBURN, in view of US Patent 6,398,190 to LI, as provided above, and further in view of US Patent 6,230,749 to KERTESZ.

The Examiner's argument is essentially as follows:

KERTESZ teaches that a manufactured product may include a flame retardant additive. To provide a flame retardant additive to either or both of the textile sleeve or the inner elongate duct *supra* would have been obvious in view of the disclosure of KERTESZ. One would be motivated to do this in order to prevent the products from being damaged by fire.

As best understood, KERTESZ teaches a multi-layer tube for use in motor vehicles, in which the outer layer is a thermoplastic material and the inner layer(s) are thermoplastic diffusion barrier layers, one of which is directly bonded to the outer layer. KERTESZ mentions that a flame retardant additive may be included in one or more layers of the tube structure, and is preferably included in the outer layer.

The deficiencies of the combination of WASHBURN and LI, in providing a teaching of all of the limitations of Applicant's claims, have been discussed above. The addition of KERTESZ to the combination does not remedy these deficiencies, even if one were motivated to incorporate the teachings of KERTESZ, which Applicant respectfully disputes.

KERTESZ is directed to solving the problem of providing a durable hose construction for the transport of fluids, such as fuel, oil, and antifreeze, within a motor vehicle. WASHBURN is directed to the problem of inserting cables into a service line or pipeline with a minimal amount of flow reduction. LI is directed to the problem of increasing the

USPTO Customer No. 25280

Case 5594

amount of speed and force with which a cable may be pulled through a conduit, while reducing the amount of friction and need for lubricants, by providing a textile sleeve that surrounds and protects the cable.

Hence, in reviewing the problems to which the cited references are addressed, it is clear that the KERTESZ patent is from a non-analogous field of endeavor. MPEP 2141.01(a) states:

"In order to rely on a reference as a basis for rejection of an applicant's invention, the reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the inventor was concerned." *In re Oetiker*, 977 F.2d 1443, 1446, 24 USPQ2d 1443, 1445 (Fed. Cir. 1992).

The KERTESZ reference is neither from the field of Applicant's endeavor nor is it reasonably pertinent to the problem solved by Applicant's invention (i.e., the efficient transport of multiple cables through a conduit using polymer guide tubes carried in a textile sleeve). Applicant, therefore, submits that KERTESZ is non-analogous art and should not properly be included in the present rejection.

However, even if the KERTESZ reference is included in the rejection of Claims 13-16, for the sake of argument, the combination still fails to provide any teaching or suggestion of an innerduct guide tube assembly, which contains a plurality of polymer guide tubes (each of which further contains installation means therein) and a woven textile sleeve disposed about the guide tubes and in slidable relation therewith. KERTESZ, as discussed above, teaches only a flame retardant additive used in a hose and, therefore, provides no additional teachings necessary to establish a *prima facie* case of obviousness with regard to Claims 13-16.

USPTO Customer No. 25280

Case 5594

Because the KERTESZ reference is believed to be non-analogous art, and because the references, even if combined, fail to teach all of the limitations of Applicant's claims, Applicant submits that no *prima facie* case of obviousness exists. Accordingly, believing the rejection to be traversed, Applicant respectfully requests the withdrawal of such rejection.

* * *

Claims 17, 18, and 21 are rejected under 35 USC 103(a) as being unpatentable over US Patent 6,796,547 to WASHBURN, in view of US Patent 6,398,190 to LI, as provided above, and further in view of US Patent 6,304,698 to MORRIS.

The Examiner's argument is essentially as follows:

MORRIS teaches that a textile sleeve may be multi-component wherein the warp is polyester and the fill is nylon. To make the textile sleeve *supra* from multi-component polyester and nylon would have been obvious, in view of the disclosure of MORRIS. One would have been motivated to do this in order to provide the textile sleeve with the desired strength and flexibility properties.

MORRIS teaches a multi-cell innerduct structure useful for carrying cables through a conduit, in which the innerduct is made of monofilament nylon yarns in the warp and/or fill direction. In another embodiment, the warp is made of polyester yarns and the fill is made of nylon yarns.

MORRIS does not teach the use of multi-component yarns, as provided in present Claim 17 or the use of core-sheath types of fibers, as provided in present Claim 18. Additionally, neither WASHBURN nor LI provides any teaching or suggestion of the

USPTO Customer No. 25280

Case 5594

limitations of Claims 17 and 18. Furthermore, Claims 17 and 18 include the limitations of Claim 1, from which they depend directly or indirectly. It has been discussed previously that the combination of WASHBURN and LI fails to teach the limitations of Claim 1, and the introduction of MORRIS in the rejection of Claims 17, 18, and 21 is insufficient to overcome this deficiency.

Claim 21 provides that the textile sleeve is a woven fabric having polyester warp yarns and nylon fill yarns. Claim 21 depends from Claim 1 and contains all of the limitations thereof. WASHBURN and LI do not teach all of the limitations of Claim 1, and the introduction of MORRIS to teach a specific fabric construction, does not remedy this shortcoming. Additionally, MORRIS teaches a multi-cell structure and Claim 1 (from which Claim 21 depends) has been amended to be limited to a single-cell textile sleeve.

Thus, because the references fail to teach all of the limitations of Applicant's claims, Applicant believes the rejection to be traversed and respectfully requests that it be withdrawn.

* * *

Claims 19-20 are rejected under 35 USC 103(a) as being unpatentable over US Patent 6,796,547 to WASHBURN, in view of US Patent 6,398,190 to LI and US Patent 6,304,698 to MORRIS, as provided above, and further in view of US Patent 4,942,069 to KEOGH.

The Examiner's argument is essentially as follows:

KEOGH teach that glass core with a melamine coating is flame retardant. To provide the fiber *supra* with a glass core with a melamine coating would have

USPTO Customer No. 25280

Case 5594

been obvious, in view of the disclosure of KEOGH. One would be motivated to do this in order to prevent the fiber from being damaged by fire.

The deficiencies of WASHBURN, LI, and MORRIS have been discussed above. Claims 19 and 20 depend from Claim 18, which was discussed previously, and ultimately depend from Claim 1.

As best understood, KEOGH teaches a cable having a core surrounded by a thermoplastic sheath, where the sheath contains a flame retardant compound. The flame retardant is a metal hydrate such as magnesium hydroxide or aluminum hydroxide. KEOGH mentions that the flame retardant sheath may be used with glass cores in fiber optics applications (Col. 4, lines 53-54). KEOGH is completely silent about the use of textile products or polymer guide tubes to encase or carry their cables. KEOGH is directed to solving the problem of reducing the likelihood of duct fires only by including flame retardant in the cable sheath itself.

Although KEOGH teaches a specific flame retardant yarn construction, KEOGH fails to provide any teachings of the other limitations of Applicant's claims, which are not addressed by the combination of WASHBURN, LI, and MORRIS. Specifically, the combination of WASHBURN, LI, MORRIS, and KEOGH fails to teach a textile sleeve structure, in which a plurality of polymer guide tubes is positioned, wherein the guide tubes further contain installation means for cables to be pulled therethrough, and wherein the textile sleeve is made from fabric containing glass core yarns wrapped with melamine and, as in the case of Claim 20, further containing a layer of fire resistant polyester. Applicant submits that such a structure is arrived at only with the benefit of

USPTO Customer No. 25280

Case 5594

hindsight, which is impermissible in establishing a *prima facie* case of obviousness.
(MPEP 2142)

Because there is no motivation to combine the KEOGH reference with the previous combination, and because, when combined, the references fail to teach all of the limitations of Applicant's claims, Applicant believes that no *prima facie* case of obviousness exists with respect to Claims 19 and 20. Accordingly, Applicant respectfully requests that such rejection be withdrawn.

* * *

Claims 22-23 are rejected under 35 USC 103(a) as being unpatentable over US Patent 6,796,547 to WASHBURN, in view of US Patent 6,398,190 to LI, as provided above, and further in view of US Patent 5,027,864 to CONTI et al.

The Examiner's argument is essentially as follows:

CONTI et al. teach that the guide tube may contain a means for installing a cable, such as a pull line. To provide in the guide tube *supra* a pull line would have been obvious, in view of the disclosure of CONTI et al. One would have been motivated to do this in order to facilitate the convenient installation of cables subsequently in the inner duct.

Claim 22 has been cancelled, thereby rendering the rejection moot. The limitations of Claim 22 have been incorporated into Claim 1, from which Claim 23 now depends.

From Applicant's understanding, CONTI is directed to a plurality of interlocking inner duct structures for installing cables into a conduit, in which the inner duct structures are

USPTO Customer No. 25280

Case 5594

formed from extruded plastic material. CONTI discloses that woven pull lines may be used for pulling cables through the inner duct structures and into the conduit.

Claim 1, from which Claim 23 now depends, recites an innerduct structure having a single-cell, woven textile sleeve structure, in which a plurality of polymer guide tubes is positioned, wherein the guide tubes further contain installation means for cables to be pulled therethrough. Claim 23 has been amended to recite that the installation means include pull cord, twisted monofilament yarn, braided yarn, monofilament yarn having a generally round cross-section, and any combination thereof. Support for this amendment is found in the specification on Page 9, line 20 – Page 10, line 2.

WASHBURN, LI, and CONTI, in combination, fail to teach all of the limitations of Applicant's Claim 23. Accordingly, no *prima facie* case of obviousness can be shown to exist. For this reason, Applicant respectfully requests that the rejection of Claim 23 be withdrawn.

* * *

USPTO Customer No. 25280

Case 5594

CONCLUSION

For the reasons set forth above, it is respectfully submitted that the rejections should be withdrawn and that the amended Claims stand in condition for allowance.

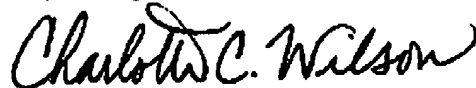
Should any issues remain after consideration of this Amendment and accompanying Remarks, the Examiner is invited and encouraged to telephone the undersigned in the hope that any such issue may be promptly and satisfactorily resolved.

This response is accompanied by a Petition for Extension of Time (three months). In the event that there are additional fees associated with the submission of these papers (including extension of time fees), authorization is hereby provided for the Commissioner to withdraw such fees from Deposit Account No. 04-0500.

Date: July 31, 2006

Legal Department
Milliken & Company, M-495
920 Milliken Road
Post Office Box 1926
Spartanburg, SC 29304

Respectfully submitted,



Charlotte C. Wilson
Agent for Applicant
Registration No. 45,224
Tel. (864) 503-2194
Fax (864) 503-1999